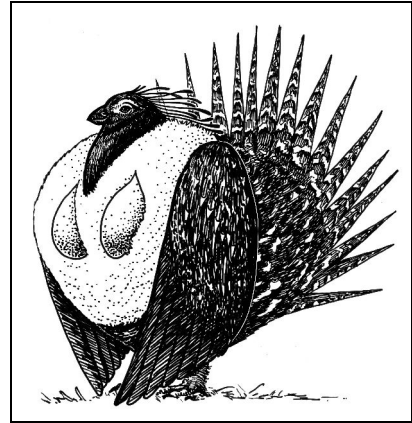


# Upper Columbia Basin Network Sage Grouse Protocol Development Summary (July 2008)



**Protocol:** Sage grouse

**Parks Where Protocol will be Implemented:** CIRO and CRMO

## **Justification/Issues being addressed:**

The greater sage grouse is decreasing in numbers and range throughout much of the western United States (Connelly and Braun 1997; Connelly et al. 2003; Schroeder et al. 2004; ISGAC 2006). Researchers estimate the sage grouse has been extirpated from 44% of its presettlement range (Schroeder et al. 2004). This level of decline has been demonstrated in Idaho, where greater sage grouse populations declined at a rate of approximately 1.5% per year from 1965 to 2003 (ISGAC 2006). These losses have led to several petitions to list certain populations, subspecies, or species of sage-grouse as endangered or threatened under the Endangered Species Act. The species is considered a sagebrush-steppe habitat obligate, and as such, depends heavily on sagebrush for cover and forage. Declines in sage grouse numbers are attributed to the loss, fragmentation, and alteration of sagebrush-steppe vegetation across the intermountain west, particularly in southern Idaho (USFS 1996; West and Young 2000; BLM 2002; Reid et al. 2002; ISGAC 2006). Agricultural conversion, historic overgrazing, altered fire regime, and exotic plant invasion are the primary sources of this habitat loss (West and Young 2000; Bunting et al. 2002; ISGAC 2006).

Sagebrush-steppe vegetation comprises over 50% of CIRO land cover and more than 90% of vegetated portions of CRMO, much of which is suitable habitat for sage grouse. Sage grouse occur in these two parks during all seasons of the year, but the status of their occurrence is unknown. Currently, we are aware of three active lek breeding localities adjacent to the Castle Rocks unit of CIRO. Nests, broods, and wintering individuals are occasionally seen in both units of CIRO and in adjacent rangeland. At CRMO, over 36 historic or active leks occur within or in close proximity to the boundary of the jointly managed preserve portion of the monument. Use of CRMO by sage grouse at other times is confirmed but not well described.

It appears as though these parks do not support large numbers of sage grouse, and park areas used are largely on the periphery of more active habitat. However, it is important for NPS to monitor sage grouse and grouse habitat for several reasons. Being a sagebrush obligate species, sage grouse require a large area of sagebrush/grassland habitats with a significant amount of canopy cover for nesting and wintering habitat (ISGAC 2006). Biologists describe the greater sage grouse as an umbrella species, and its home range and habitat requirements are large enough that, if protected, will consequently bring other species under protection (ISGAC 2006). Also, sage grouse exhibit high fidelity to seasonal ranges. For example, hens tend to return to the

same nesting area each year (Fischer et al. 1993). From a long-term perspective, the importance of CRMO and CIRO steppe habitat to sage grouse may increase as surrounding land cover shifts toward non-suitable habitat. Finally, the NPS can make an important contribution to existing state and regional efforts to assess the status and trend of this species range-wide. For these reasons, sage grouse monitoring will be conducted as a complement to the Network's sage-steppe vegetation monitoring effort and will add to the overall understanding of sagebrush-steppe ecological condition.

IDFG is currently monitoring sage grouse populations of southeastern Idaho on a broader scale. Considering their efforts and the expansive habitat used by the species, which crosses ownership and agency boundaries, collaboration with IDFG will be essential to the success of this monitoring program. Consequently, information found about sage grouse in the parks will benefit IDFG and contribute to efforts and understanding placed forth in the "Conservation Plan for the Greater Sage-grouse in Idaho," released by the Idaho Sage Grouse Advisory Committee (ISGAC) (2006) and the Idaho Fish and Game Commission.

### **Specific Monitoring Questions and Objectives to be Addressed by the Protocol:**

Monitoring questions addressed by this protocol include:

- What is the status of sage grouse lek activity in CIRO and CRMO?
- What are the long-term trends of lek use in CIRO and CRMO, and are these trends proportional to those statewide?
- Where is the potential critical habitat for sage grouse in CRMO and CIRO?
- What is the status and trend of sage grouse occupancy in these critical park habitat areas?

Monitoring objectives addressed by this protocol include:

- 1) Cooperate with IDFG to estimate trends in occupancy and abundance of male sage grouse through annual lek counts in and adjacent to (within 3.2 km [2 mi] of park boundaries) CIRO and CRMO.

**Justification:** *Across the range, lek counts are the most common way to monitor sage-grouse populations. Leks are relatively easy to identify and survey. Also, state wildlife managers already have a lek monitoring program in place, providing an opportunity to work collaboratively and share information. Long-term lek count data provides insight into sage grouse population trends, and consequently, the condition of other sagebrush obligate species.*

- 2) Identify potential critical sage grouse habitat areas within the parks and conduct periodic status surveys in these areas to estimate occupancy and abundance.

**Justification:** *Sage grouse have different habitat requirements during each season. Loss or conversion of habitat is reported to be the primary cause of sage grouse declines. Each of these important habitats must be identified and protected in order to better manage for the species.*

### **Basic Approach:**

The UCBN will develop and implement this protocol in two phases. The first phase will address the first objective pertaining to lek counts. The IDFG is currently monitoring leks in and around

CIRO and CRMO. IDFG's monitoring protocol, as described by the Idaho Sage Grouse Advisory Committee (2006), will be adopted and if necessary, modified to meet the NPS I&M standards described by Oakley et al. (2003). NPS personnel will work cooperatively with the regional IDFG offices (Magic Valley, Upper Snake, and Southeast) to ensure the protocol is adopted and implemented properly, and information sharing is seamless. Annual ground and aerial lek searches will be coordinated with IDFG.

The second phase of protocol development will address the second objective related to identification and occupancy and abundance of grouse in critical habitat areas. Sage grouse populations in southern Idaho are migratory, have large annual ranges, and use different habitats at different times of the year (Connelly et al. 2000, 2003). The different requirements for breeding, nesting, summer/brood rearing, fall, and wintering habitats have been described and can be used to describe potential habitat for areas where sage grouse use is unknown (Fischer et al. 1993; Connelly et al. 2000; ISGAC 2006). The UCBN will work with the University of Idaho College of Natural Resources and IDFG to develop a GIS-based model of potential sage grouse habitat within parks. Current vegetation maps are being produced for CIRO and CRMO through assistance from the NPS national vegetation mapping program and are scheduled for completion in 2008 in time for use in this effort. The potential habitat will be stratified into seasonal usage categories and a sampling design relying on flush counts will be developed to support periodic assessment of status and trend in occupancy by habitat type.

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**Development Schedule, Budget, and Expected Interim Products:**

The UCBN plans to submit a draft sage grouse monitoring protocol for peer review in May 2010.

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